FIG.1

PACKET TRANSMISSION CONTROL SIGNAL

PACKET DATA

DL_TPC COMMAND

DEDICATED DATA CONTROL SIGNAL

SHARED CONTROL DATA

UL_TPC COMMAND

CONTROL SIGNAL (DL_TPC COMMAND, CQI, ACK/NACK, ETC.)

RECEIVED DATA

151 SCHEDULER

160 OFFSET

FIG.2

UL_TPC COMMAND

204 BUFFER

207 ERROR DETECTION

RECEIVING PACKET DATA

RECEIVED DATA

TRANSMITTING DATA

DL_TPC COMMAND

FIG.3

ACK/NACK SIGNAL

CQI SIGNAL

PACKET TRANSMISSION CONTROL SIGNAL

301 TRANSMISSION DESTINATION DETERMINER

302 MCS DETERMINER

303 PACKET QUALITY ESTIMATOR

304 TRANSMISSION POWER DETERMINER

305 HS-SCCH SIGNAL GENERATOR

TO BUFFER 152

TO MODULATOR 153

TO TRANSMISSION POWER CONTROLLER 154

TO AMPLIFIER 161

FIG.4

BASE STATION APPARATUS

F402 MCS SELECTION

F407 PACKET QUALITY ESTIMATION (ESTIMATED FROM CQI)

F408 (RETRANSMISSION POWER DETERMINATION)

F409 PACKET #I (RETRANSMISSION)

COMMUNICATION TERMINAL APPARATUS

F404 DECODING

FIG.5

PACKET TRANSMISSION POWER (BASE STATION APPARATUS)

PACKET #I

CIR (COMMUNICATION TERMINAL APPARATUS)

FIG.6

ACK/NACK SIGNAL

CQI SIGNAL

PACKET TRANSMISSION CONTROL SIGNAL

301 TRANSMISSION DESTINATION DETERMINER

302 MCS DETERMINER

303 PACKET QUALITY ESTIMATOR

304 TRANSMISSION POWER DETERMINER

305 HS-SCCH SIGNAL GENERATOR

TO BUFFER 152

TO MODULATOR 153

TO TRANSMISSION POWER CONTROLLER 163

TRANSMISSION POWER CONTROLLER 154

TO AMPLIFIER 161

FIG.7

ACK/NACK SIGNAL

CQI SIGNAL

PACKET TRANSMISSION CONTROL SIGNAL

301 TRANSMISSION DESTINATION DETERMINER

302 MCS DETERMINER

303 PACKET QUALITY ESTIMATOR

304 TRANSMISSION POWER DETERMINER

305 HS-SCCH SIGNAL GENERATOR

701 CODING PRIORITY DETERMINER

TO BUFFER 152

MODULATOR 153

TRANSMISSION POWER CONTROLLER 154

AMPLIFIER 161

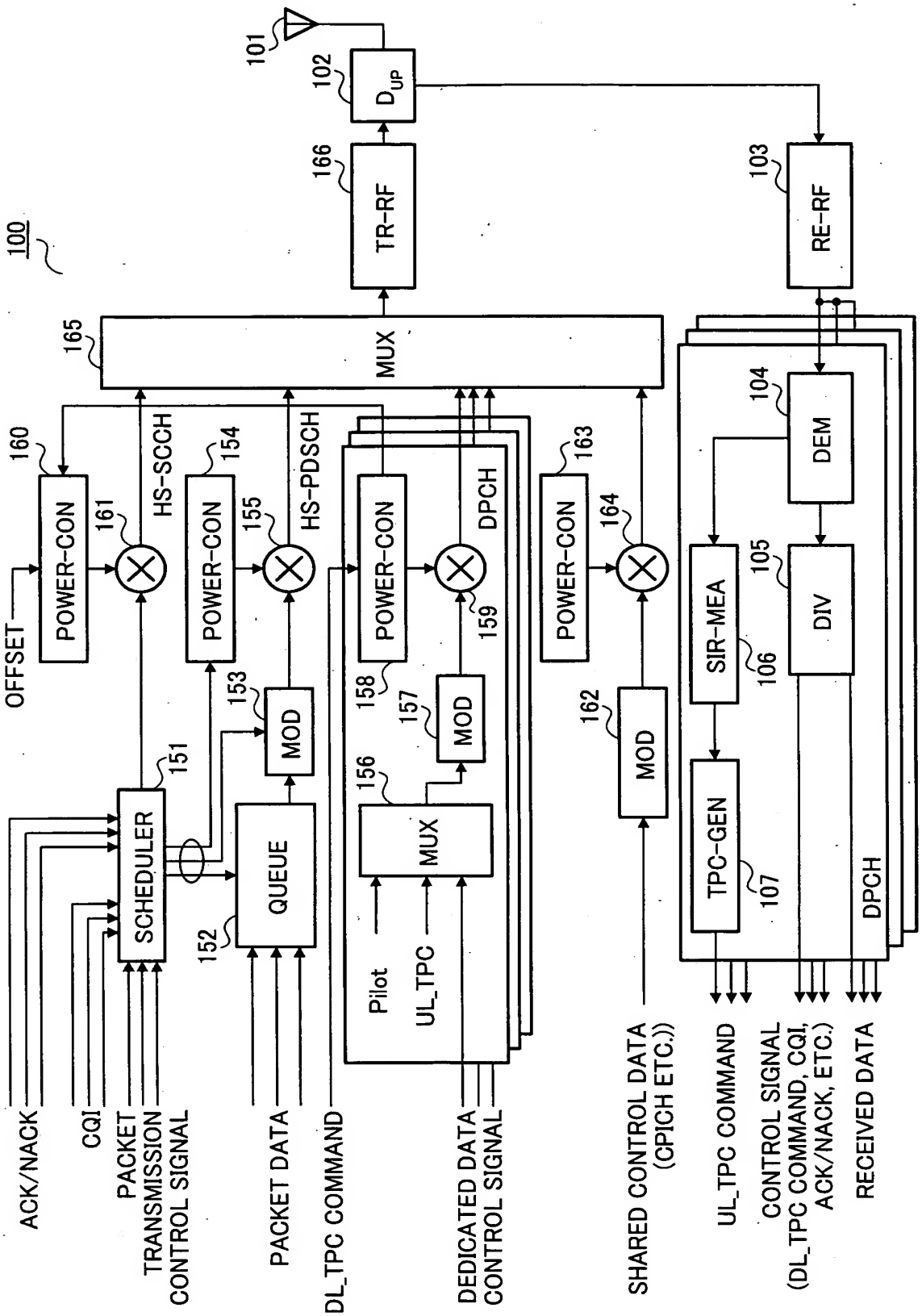
100
101
102
D_{UP}
166
TR-RF
103
RE-RF
165
MUX
160
POWER-CON
161
HS-SCCH
154
POWER-CON
155
HS-PDSCH
POWER-CON
DPCH
159
163
POWER-CON
164
OFFSET
153
MOD
158
157
MOD
162
MOD
151
SCHEDULER
156
MUX
152
QUEUE
Pilot
UL_TPC
104
DEM
105
DIV
SIR-MEA
106
TPC-GEN
107
DPCH
ACK/NACK
CQI
PACKET TRANSMISSION CONTROL SIGNAL
PACKET DATA
DL_TPC COMMAND
DEDICATED DATA CONTROL SIGNAL
SHARED CONTROL DATA (CPICH ETC.))
UL_TPC COMMAND
CONTROL SIGNAL (DL_TPC COMMAND, CQI, ACK/NACK, ETC.)
RECEIVED DATA

FIG.1

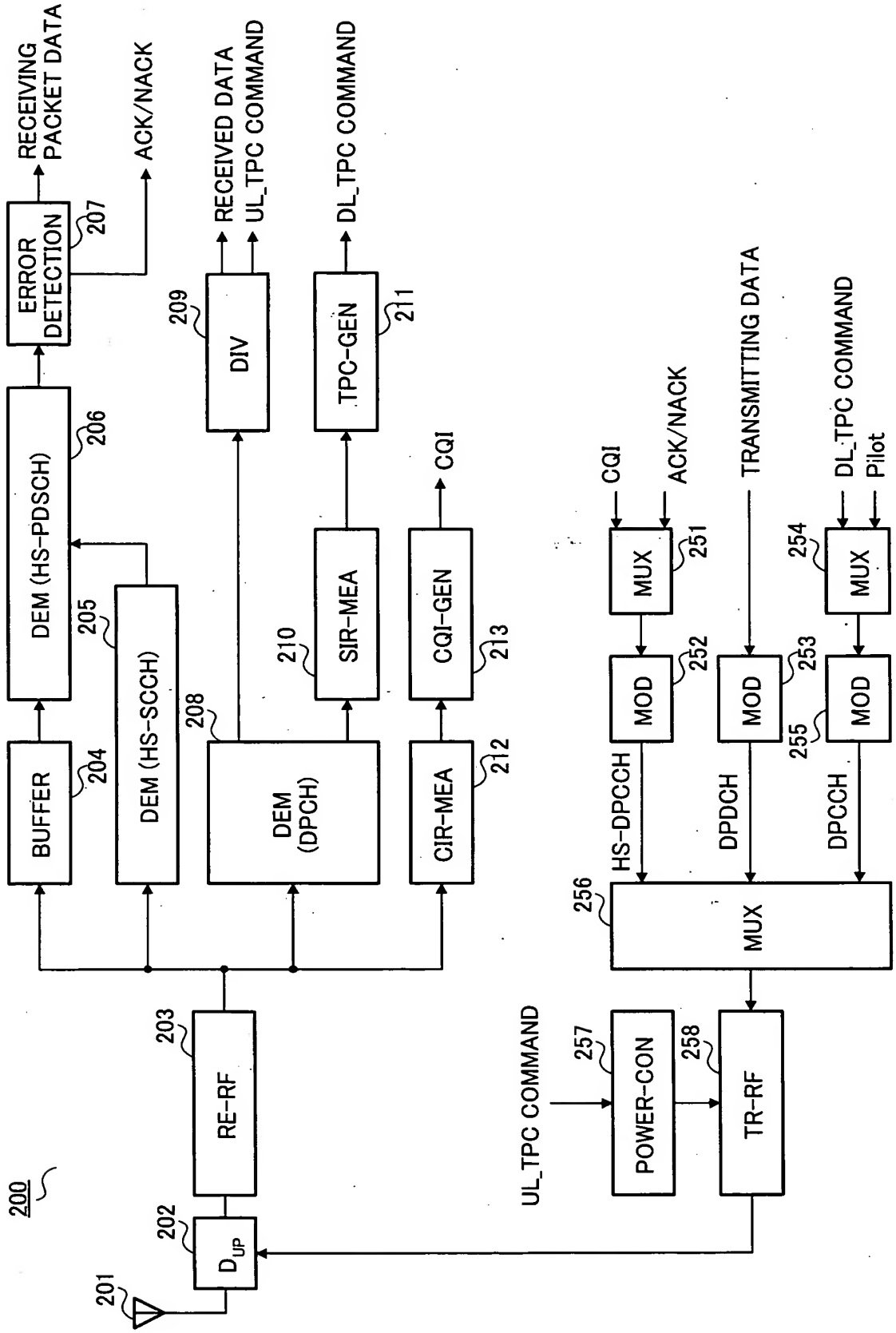
200
201
202
D_{UP}
203
RE-RF
204
BUFFER
205
DEM (HS-SCCH)
206
DEM (HS-PDSCH)
207
ERROR DETECTION
RECEIVING PACKET DATA
ACK/NACK
208
DEM (DPCH)
209
DIV
RECEIVED DATA
UL_TPC COMMAND
210
SIR-MEA
211
TPC-GEN
DL_TPC COMMAND
212
CIR-MEA
213
CQI-GEN
CQI
UL_TPC COMMAND
257
POWER-CON
258
TR-RF
256
MUX
HS-DPCCH
DPDCH
DPCCH
251
MUX
CQI
ACK/NACK
252
MOD
TRANSMITTING DATA
253
MOD
254
MUX
DL_TPC COMMAND
Pilot
255
MOD

FIG.2

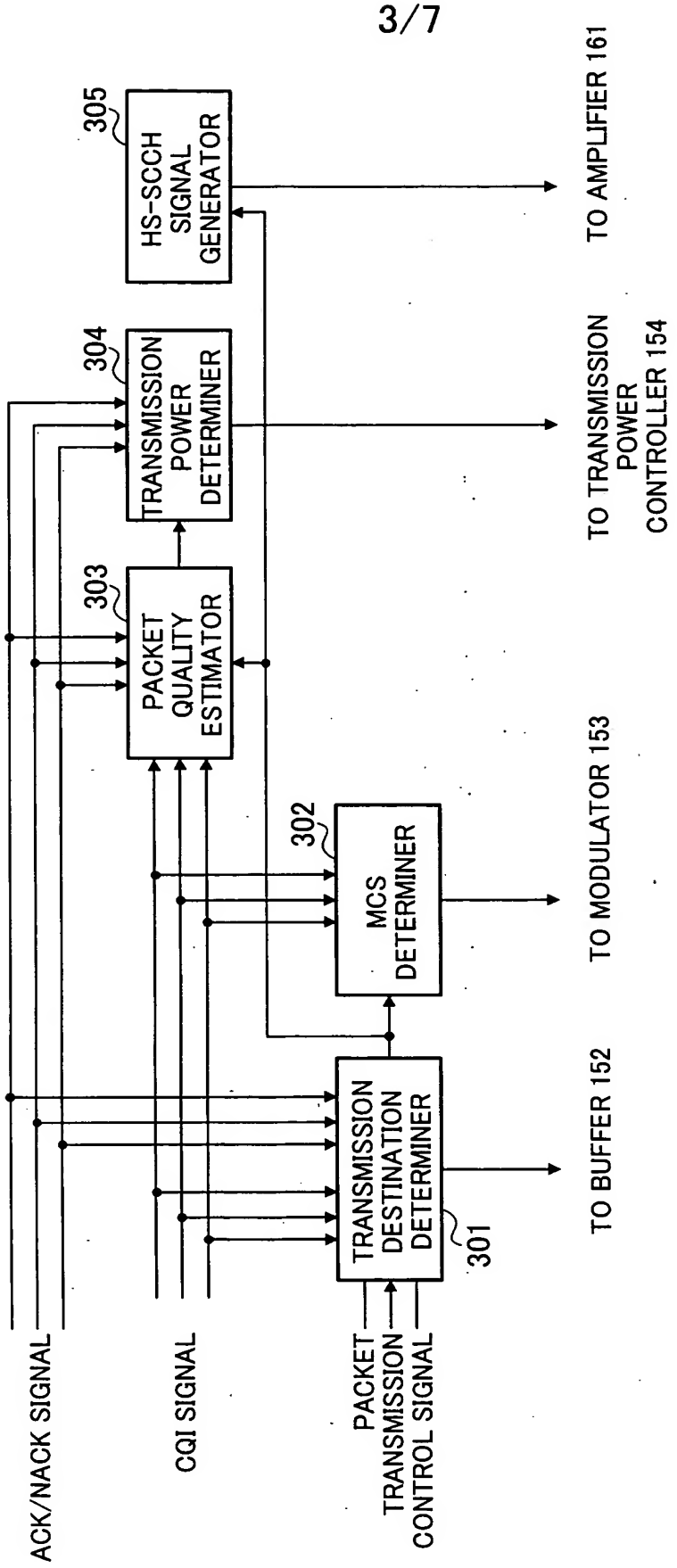
305
HS-SCCH SIGNAL GENERATOR
TO AMPLIFIER 161
304
TRANSMISSION POWER DETERMINER
TO TRANSMISSION POWER CONTROLLER 154
303
PACKET QUALITY ESTIMATOR
302
MCS DETERMINER
TO MODULATOR 153
TRANSMISSION DESTINATION DETERMINER
301
TO BUFFER 152
ACK/NACK SIGNAL
CQI SIGNAL
PACKET TRANSMISSION CONTROL SIGNAL
151

FIG.3

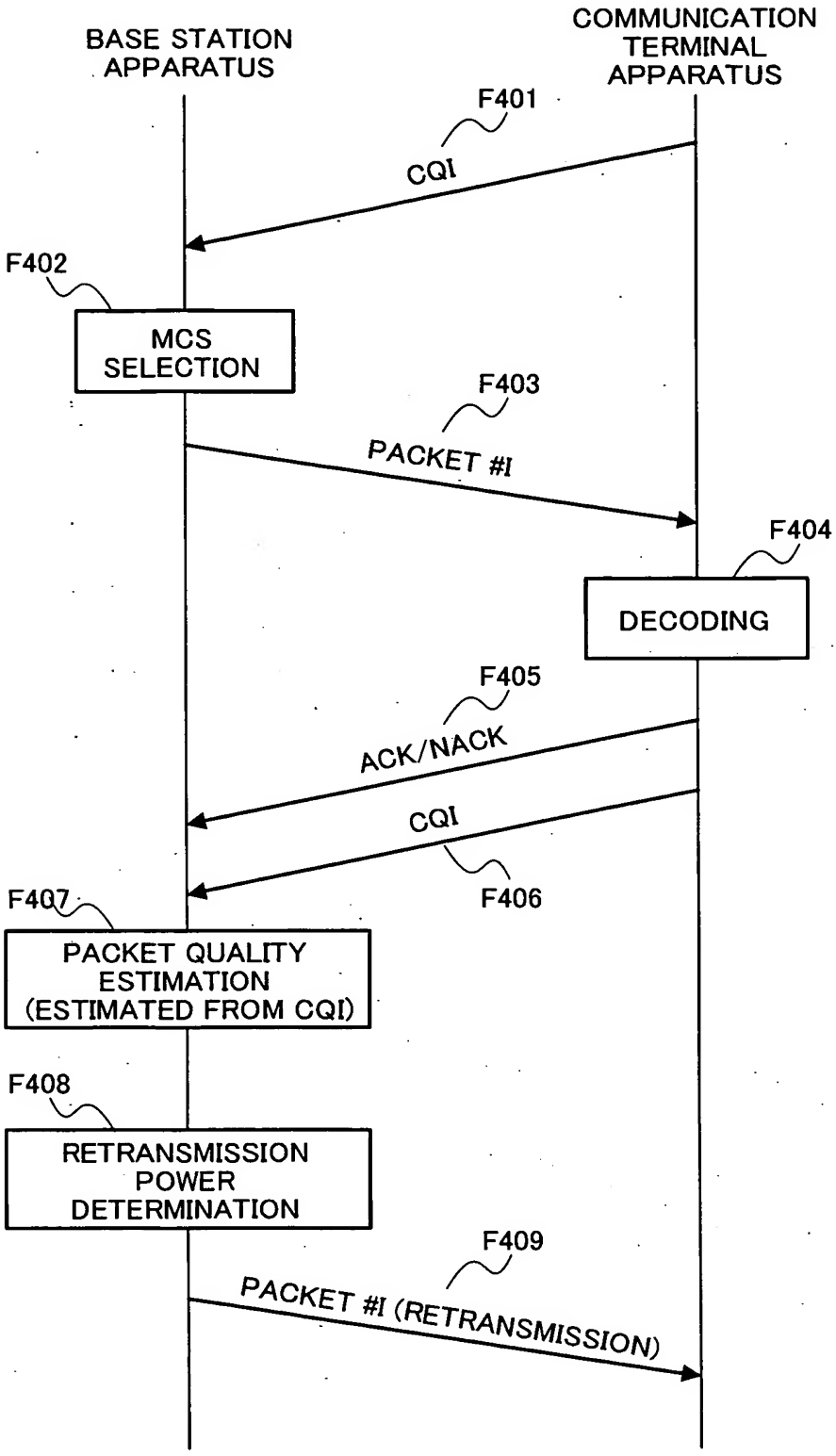
BASE STATION APPARATUS
COMMUNICATION TERMINAL APPARATUS
F401
CQI
F402
MCS SELECTION
F403
PACKET #I
F404
DECODING
F405
ACK/NACK
CQI
F406
F407
PACKET QUALITY ESTIMATION (ESTIMATED FROM CQI)
F408
RETRANSMISSION POWER DETERMINATION
F409
PACKET #I (RETRANSMISSION)

FIG.4

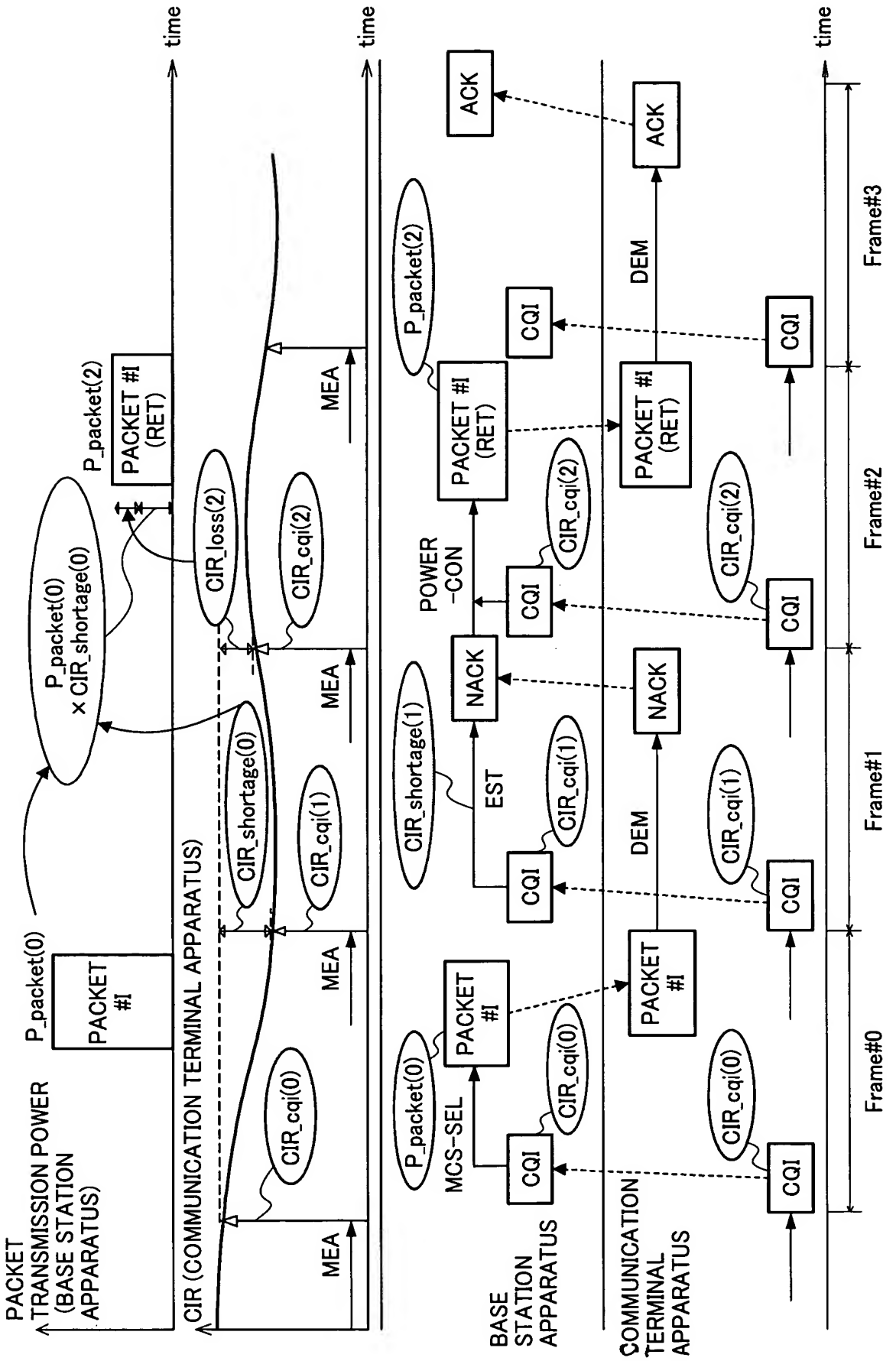
PACKET TRANSMISSION POWER (BASE STATION APPARATUS)
CIR (COMMUNICATION TERMINAL APPARATUS)
time
P_packet(0)
PACKET #1
P_packet(0) × CIR_shortage(0)
P_packet(2)
PACKET #1 (RET)
CIR_cqi(0)
CIR_shortage(0)
CIR_loss(2)
CIR_cqi(1)
CIR_cqi(2)
MEA
MEA
MEA
MEA
BASE STATION APPARATUS
COMMUNICATION TERMINAL APPARATUS
P_packet(0)
MCS-SEL
PACKET #1
CQI
CIR_cqi(0)
CIR_shortage(1)
EST
NACK
CQI
CIR_cqi(1)
POWER -CON
P_packet(2)
PACKET #1 (RET)
CQI
CIR_cqi(2)
ACK
DEM
PACKET #1
NACK
CQI
CIR_cqi(1)
DEM
PACKET #1 (RET)
CQI
CIR_cqi(2)
ACK
CQI
Frame#0
Frame#1
Frame#2
Frame#3

FIG.5

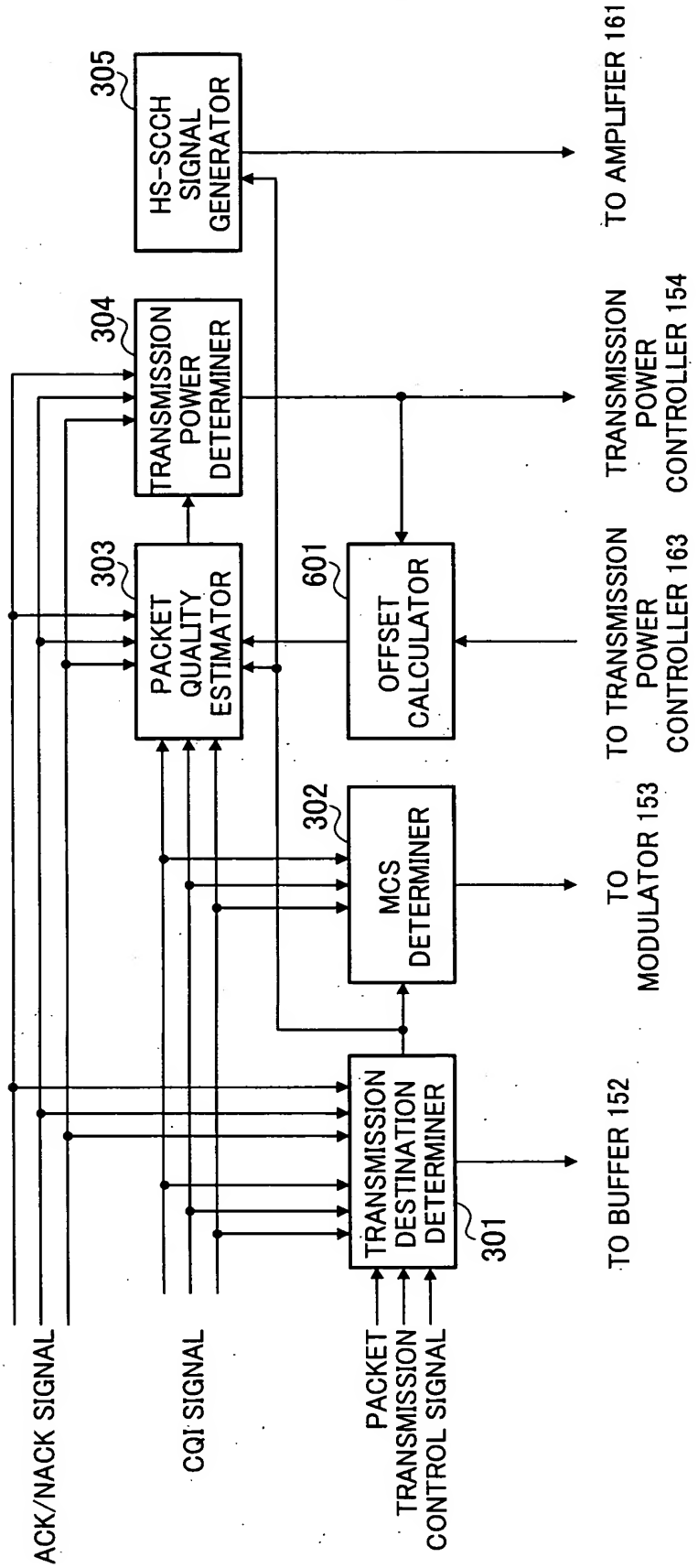
305
HS-SCCH SIGNAL GENERATOR
TO AMPLIFIER 161
304
TRANSMISSION POWER DETERMINER
TRANSMISSION POWER CONTROLLER 154
303
PACKET QUALITY ESTIMATOR
601
OFFSET CALCULATOR
TO TRANSMISSION POWER CONTROLLER 163
302
MCS DETERMINER
TO MODULATOR 153
TRANSMISSION DESTINATION DETERMINER
301
TO BUFFER 152
ACK/NACK SIGNAL
CQI SIGNAL
PACKET TRANSMISSION CONTROL SIGNAL
151

FIG.6

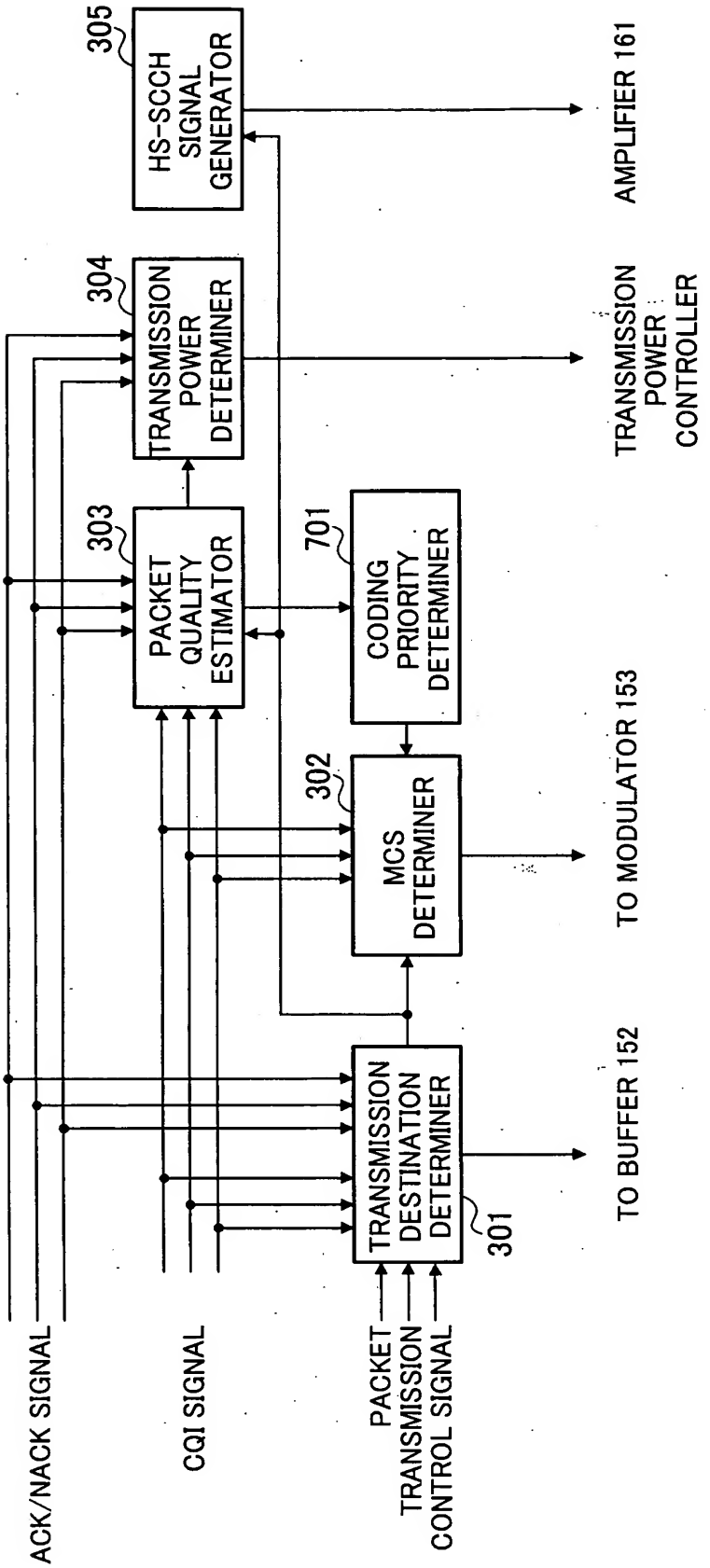
305
HS-SCCH SIGNAL GENERATOR
AMPLIFIER 161
304
TRANSMISSION POWER DETERMINER
TRANSMISSION POWER CONTROLLER
303
PACKET QUALITY ESTIMATOR
701
CODING PRIORITY DETERMINER
302
MCS DETERMINER
TO MODULATOR 153
TRANSMISSION DESTINATION DETERMINER
301
TO BUFFER 152
ACK/NACK SIGNAL
CQI SIGNAL
PACKET TRANSMISSION CONTROL SIGNAL
151

FIG.7